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RELATIONSHIP OF THE SELF-CONCEPT TO BEGINNING ACHIEVEMENT IN READING.

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THIS EXPLORATORY STUDY WAS DESIGNED TO ANALYZE DATA TO DETERMINE IF THE ASSOCIATION REPORTED BY OTHER INVESTIGATORS LINKING LOW SELF-CONCEPTS TO READING DIFFICULTIES WAS CORRECT OR WAS CAUSED BY UNFORTUNATE EXPERIENCES IN READING UNDERMINING SELF-CONCEPTS. A SAMPLE OF 185 KINDERGARTEN ENTRANTS WAS INTERVIEWED AND OBSERVED FOR RATINGS IN RELATION TO THEIR SELF-CONCEPT. TWO YEARS AFTER COMPLETION OF KINDERGARTEN, THE PUPILS WERE AGAIN MEASURED OR RATED AS TO (1) SELF-CONCEPT AND (2) EGO STRENGTH. TWO SERIES OF STATISTICAL TREATMENT WERE UTILIZED--(1) A DICHOTOMIZED INDICATION OF READING PROGRESS, AND (2) SUBGROUFING BY SEX, SOCIOECONOMIC CLASS LEVEL, TYPE OF SCHOOL, AND PRESENT READING BOOK. THE RESULTS OF THIS STUDY WOULD SUGGEST THAT MEASURES OF SELF-CONCEPT AT THE KINDERGARTEN LEVEL WOULD ADD SIGNIFICANTLY TO THE PREDICTIVE EFFICIENCY NOW ATTAINABLE THROUGH MENTAL ABILITY TESTS. IT WOULD APPEAR THAT THE SELF-CONCEPT STANDS IN A CAUSAL RELATIONSHIP TO READING ACHIEVEMENT, AND THAT PROGRESS IN READING DOES NOT HAVE A MARKED EFFECT IN THE FORMATION OF THE SELF-CONCEPT. RECOMMENDATIONS ARE MADE FOR MORE RESEARCH IN THIS AREA USING A VARIETY OF TECHNIQUES AND DESIGNS. (GC)

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RELATIONSHIP OF THE SELF-CONCEPT TO BEGINNING ACHIEVEMENT IN READING

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SUMMARY

The present study is an exploratory one designed to gather data to determine whether the association reported by other investigators linking low self-concepts to reading difficulties was caused by poor self-concepts leading to reading difficulties or by unfortunate experiences in reading undermining self-concepts.

Using as sample populations the children in the first semester of kindergarten in two Detroit elementary schools chosen because one serves a working-class neighborhood and the other a middle-class neighborhood, from both of which approximately half the pupils go to Catholic elementary schools, measures and ratings were obtained relative to (1) self-concepts, (2) ego strength, and (3) intelligence. Two years after completion of kindergarten, the pupils were again measured or rated as to (1) self-concept, and (2) ego strength. In addition their progress in reading was noted and their achievement measured on the test for the book in which they were reading as prepared by the publisher.

Two series of statistical treatment were utilized. In the first, a dichotomized indication of reading progress (whether the pupils were reading in the book appropriate to their grade level, or one lower in the series) was compared with dichotomized distributions of other measures. In the second series, the pupils were subgrouped by sex, socio-economic class level, type of school, and book in which reading. Rank-order correlations among the several variables were computed and tabulated.

Although statistical levels of confidence were at best marginal in all tabulations, the consistency of the results especially in the second series is striking. In general, the measures of self-concept and the ratings of ego strength made at the beginning of kindergarten proved to be somewhat more predictive of reading achievement two and one-half years later than was the measure of mental ability, the Detroit Beginning First Grade Intelligence Test. The correlation between the measures of reading achievement and of changes in self-concept was slight, and inconsistent in direction. There was only a slight and, again, inconsistent correlation between the measures of self-concept and of intelligence, but a positive relationship was found between the intelligence test scores and the ratings both of ego strength and self-concept.

Analysis of the interrelations among the measures appears to support the hyopthesis that there is more than one dimension to the self-concept. A measure of self-concept as to competence behaved differently and had but slight correlation with a measure of self-concept as to "goodness."

The results of this study would suggest that measures of self-concept at the kindergarten level would add significantly to the predictive efficiency now attainable through tests of mental ability. Moreover, it would appear

that the self-concept stands in a causal relationship to reading achievement, and that progress in reading does not have a marked effect in the formation of the self-concept. Finally, it would appear that the self-concept is a somewhat more complex phenomenon than much previous work would seem to imply.

In view of the importance of these findings, other investigators should be encouraged to enter this area of research with a variety of techniques and designs. Efforts should be made to develop simpler and speedier ways of measuring self-concepts at the kindergarten level, and to test the results of experimental changes in self-concepts.

INTRODUCTION

The present study was suggested by findings that in the upper grades of the elementary school there tended to be a positive association between academic achievement and measures of self-concept. This gave rise to the inevitable "chicken or egg" question. It could be argued that children with strong, positive self-concepts would tackle school work with success-inducing confidence and that the level of self-concept was causal to academic achievement in general and reading in particular. Yet, a common-sense viewpoint would say that the experience a youngster had with learning tasks should play an important role in the formation of his self-concept.

Practical considerations reinforced the worthwhileness of making this matter the subject of at least an exploratory investigation. If it indeed proved true that the self-concepts with which children entered kindergarten played a vital part in determining the course of their reading achievement, an obvious implication would call for study of methods by which self-concepts could be changed at this early point (or before it) in their school careers. There would then open up the possibility that kindergarten procedures or pre-school programs for parents could affect academic progress in a highly significant way.

REVIEW OF THE LITERATURE

A number of investigators have implicated the self-concept in the genesis of reading difficulties. In a summary of the literature, Gordon and Combs (1958), urged longitudinal and normative studies of the development of the self-concept at all levels. Reeder (1955) reported that pupils with low self-concepts in the middle grade levels displayed low academic achievement in relationship to their potentials. Chickering (1958) studied ninth graders and found a relationship between self-concept and academic achievement.

Material on the subject, however, indicates need for caution. Able workers come to differing conclusions. After a review of studies prior to 1940, for instance, Wilking (1941) concluded that a straight educational approach to learning problems was indicated. In the same year, Gates (1941) reported that no single personality pattern appeared among children of adequate intelligence who failed in reading. Fernald (1943) reported that whereas many cases of reading disability treated in her clinic displayed disturbances subsequent to their failure, in only four of 78 cases was this so prior to the reading disability. By contrast, Robinson (1946) stated, "Social, visual and emotional difficulties appeared most frequently as causes of poor progress of or failure to learn to read. Inappropriate school methods, neurological difficulties, and speech or functional auditory difficulties appeared less frequently as causes of deficient reading." Bills (1950) reported that maladjusted groups of poor readers showed spontaneous improvement in reading after play therapy. A well-adjusted group showed no comparable growth in reading after similar experiences.

Spache (1949) linked learning difficulties with self-concept, and urged teachers and clinicians to devote their efforts to methods which would facilitate maturation of the self-concept and help it to become more consistent and better integrated. Sears (1940) focussed attention on the influence of early school experiences. She associated positive self-concepts with academic achievement in the elementary school years. She stated that behavior in task situations was affected by previous academic success or failure and by the feelings children had about themselves in such situations.

Gann (1945) described retarded readers (102 boys and girls from grades three through six) as insecure and fearful in emotionally challenging situations. Using the Picture-Frustration Test, Spache (1954) stated the retarded readers lacked self-confidence, and further described them as acceptant of blame in contact with adults but compensatorily overly aggressive toward peers. Abrams (1955) studied the feelings concerning life role, ability to get satisfaction from the environment and the quality of interpersonal relations of two groups of boys matched for age (eight to twelve), IQ, and years of schooling but differing in reading ability. He found the retarded readers were insecure and irritable as compared with the good achievers. Cutts (1956) compared five matched pairs of good and poor readers chosen from seven hundred pupils in a consolidated rural-village school district. He stated that the poor readers were dependent whereas the superior readers were tense, perfectionistic, and leaders. He traced the characteristics of the poor readers in

part to being made to read at home, which they perceived as a failure experience. In a study by Ann Marie Walsh (1956) dolls were used to get at the self-concepts of boys in grades two through five who had reading difficulties. The low achievers consistently differed from adequate readers in portraying a boy doll (presumably themselves) as (1) restricted in action, (2) unable to express his feelings appropriately and accurately, (3) being criticized, rejected, or isolated, and (4) acting defensively through compliance, evasion, or negativism.

Sprague (1955) in an exploratory study of kindergarten children's perceptions of their adjustment to school, stated that the study corroborated the judgment of authorities indicating about one-third of the children had adjustment difficulties which affected their ability to learn. Castner (1935), in an effort to establish criteria by which reading ability could be predicted by the first grade, made the comment that if there was no difficulty upon entering school, there probably would be no difficulty in learning to read.

Harriet Beck (1950) does not directly refer to the self-concept but again draws implications as to time relationships. She studied 152 complete records compiled at the University Elementary School of the University of Michigan. She stated, "The greatest indicators of emotional maladjustment at the kindergarten level, before reading was introduced in the first grade, were found in those children who later developed into poor readers."

Lucille Barber (1952) examined the school records of 23 pupils accepted for attendance at a remedial reading class, and found that all displayed anxiety about self and relationships with people to a marked degree. These attributes were evident in the first school year.

Any research having to do with the self-concept must recognize that this phenomenon, if indeed it is a phenomenon, is viewed from several theoretical perspectives. However it may be operationally defined, its presumed behavior and its very nature will reflect these viewpoints. The self-concept appears as a central concept in the thinking of the phenomenologists. Its earliest utilization however can be traced to the systems of sociologists. More recently it has been discussed as part of the concern with ego psychology and problems of identity by psychoanalytically oriented theorists.

Within the phenomenological approach, Snygg and Combs (1949) state, "The self-concept includes those parts of the phenomenal field which the individual has differentiated as definite and fairly stable characteristics of himself" and which contains "those elements most potently and frequently affecting behavior." Rogers (1951) states that once the self is developed, it becomes the center about which all experience is organized. From this viewpoint, the self-concept, the organization of perceptions of the self, is the most significant determinant of response to the environment.

Although later Freudian-oriented theorists have placed more emphasis than Freud did upon conceptualization of self and social interests in contrast to instinctual features, Freud (1938) expressed the view that the underlying

conditions were similar for mistakes in reading, writing, and speech as in the forgetting of names and that "The self-reference complex (personal, family, or professional) proves to be the most effective of the disturbing complexes." Symonds (1949) in his attempt to conceptualize the self within the framework of psychoanalytic theory states that the self as a concept develops according to what one's parents call one, is the core of the self, and provides possible consistency to behavior.

Similarly the self in social psychology emphasizes early development and relatively stable characteristics. Sherif and Cantril (1947) state that both formation and change of ego (self) attitudes, like other attitudes, are on the basis of learning principles. The primary stage for their development is perceptual, mostly through verbal judgments of adults; and they are more or less enduring. Sarbin (1952) emphasizes the importance of a developmental personal-social series of events in "The referent for the 'I'." Sullivan's (1953) conception of the self system, also, emphasizes early interpersonal relations and implies stability. His view is that the self is built from reflected appraisals coming from the parents. Security measures form the self system which sanctions good-me behavior and forbids bad-me behavior. Since the self system guards the person from anxiety, originally transmitted from the mother, it is held in high esteem and protected from criticism.

Erikson's (1950) approach, reflecting a rapprochement between psychoanalytic theory and social psychological theory, focusses on a relationship of childhood and society that is pertinent to an investigation of self-concept and school achievement. He notes, in contrast to that of animals, the prolonged dependency of the human and states, "...the human child's much more fragmentary patterns depend on the process of tradition which guides and gives meaning to parental responses. The outcome of this more variable completion of drive patterns by tradition...forever ties the individual to the traditions and to the institutions of his childhood milieu...." He sees identity formation as a crucial problem in our culture, and he attributes to society the responsibility for providing culturally acceptable roles which are appropriate to psychosexual stages of development and which fit into a psychosocial schedule. The individual is tied to the traditions and institutions of his childhood milieu, yet there are vicissitudes of self identity, the successive synthesis of identifications, that are subject to the way the actual social structure of the environment and the image of reality is transmitted to the child during successive childhood crises.

Of particular interest to this investigation is Erikson's formulation of events with the oncoming latency stage, at which time he states the child learns to win recognition by producing things. "It is at this point that wider society becomes significant in its ways of admitting the child to an understanding of meaningful roles in its total economy. Many a child's development is disrupted when family life may not have prepared him for school life, or when school life may fail to sustain the promises of earlier stages."

On the basis of Erikson's formulation we would expect the self-concept to influence achievement in school; however, there would also be a way open to change the self-concept in early school years. The responsibility of the school to consider the self-concept is also implied in the statements of other writers. For example, Allport (1943) states, "...it would seem that in order to employ the law of effect with human learning we must view it as secondary to the principle of ego involvement," which "...as the phrase implies, a condition to total participation of the self--as knower, as organizer, as observer, as status seeker, and as socialized being." Symond's (1949) view is similar to that of Allport to whom he refers in his discussion of the nature of self-involvement and motivation.

Jersild (1952) portrays the problem to be met in the schools in the statement, "When a person resists learning that may be beneficial to him he is, in effect, trying to protect or to shield an unhealthy condition. But, more broadly speaking, he is not actually protecting something unhealthy as such; he is trying to safeguard his picture of himself, his self-concept, the illusions concerning himself which he has built and which give him much trouble." Rogers (1954) suggests a way to handle the problem. He describes the "...essentially constructive nature of the organism" and states that if a teacher, for instance, creates such a climate for his class as there is in client-centered therapy, the student will become a self-initiated learner. He hypothesizes "...that the therapeutic relationship is only one instance of interpersonal relationships and that the same lawfulness governs all such relationships." Moustakas (1956) and Perkins (1958) discuss changes in teacher behavior that led to change in students' perception of self. Sears (1957) reports significant variables found in a pilot study that she hypothesizes are related to the effects of school experiences on the self-concept and the motivation of grade school children and are important for the maximizing of their talents and potentialities.

In an experimental study Nuthmann (1957) demonstrated that the use of verbal reward effected a change in terms of increases of self-accepting responses to personality test items. The verbal stimulus "good" was effective while a light reinforcement was not. Experimentally induced success and failure has been found to influence the self-concept in terms of change in self-ratings of various valued personality traits including a decrease in self ratings of intelligence for failure subjects (Diller, 1954), a correlation between self-evaluation of task performance and self-esteem for failure subjects (Stotland, et.al, 1957), and greater increases in solution time on a task after failure for subjects with low self-evaluations than for subjects with high self-evaluations (Solley and Stagner, 1956). Doris and Sarason's (1955) findings suggest that the order of occurrence of tasks may be related to the extent of self-blame for tasks on which the subjects experienced induced failure. Small but significant correlations between measures of self-acceptance (Zelen, 1954) or self-esteem (Coopersmith, 1959) and sociometric indices imply another possible aid in changing self-concepts.

Both theoretical approaches and empirical findings indicate that the problem of global vs. specific aspects or actual vs. self-self ideal

discrepancy representing conflicts in conceptualizations of the self-concept must be resolved before appropriate changes can be effected. On the one hand, Rogers (1951), for example, states "...the outstanding fact which must be taken into theoretical account is that the organism is at all times a total organized system in which alteration of any part may produce changes in any other part." This formulation implies a discrepancy between self and ideal-self may be the pertinent variable in reading achievement or that change may be effected through remedial measures in other than achievement oriented situations. On the other hand, we see in Erikson's (1950) formulation a suggestion that specific aspects of the self-concept may be pertinent. For example, he discusses an industry vs. inferiority conflict possibly present upon entering school and portrays the possible specificity aspects in the self-concept as follows: The child "...has experienced a sense of finality regarding the fact that there is no workable future within the womb of his family, and thus becomes ready to apply himself to given skills and tasks.... He develops industry....To bring a productive situation to completion is an aim which gradually supersedes the whims and wishes of his autonomous organism....His danger, at this stage lies in a sense of inadequacy and inferiority. If he despairs of his tools and skills or of his status among his tool partners, his ego boundaries suffer, and he abandons hope for the ability to identify early with others who apply themselves to the same general section of the tool world."

There is empirical evidence to support the hypothesized crucial nature of specific aspects of the self-concept. For example, Creelman (1955) in developing a Childrens Self-Concept Test in kindergarten concluded that conception of self-acceptance and of self-rejection needs to be differentiated into a variety of aspects in order to be understood and applied. Chickering (1958) concluded after a study of the self-concept, ideal-self-concept and achievement that the relationships between academic achievement and the discrepancy between actual and ideal self concepts pertains primarily to differences in the actual self-concept. A further possibility on the basis of empirical evidence is that there may be a curvilinear relationship between self-concept and achievement. Miller and Worchel (1956) found such a relationship between self-evaluation of adequacy in coping with frustration and efficiency in maintaining accuracy of performance. Block and Thomas (1955) asking the question "Is satisfaction with self a measure of adjustment" found a curvilinear model, in which both very high and very low self-acceptance are associated with maladjustment.

Since the inception of this investigation a number of reports on related research have appeared. In general, they support an hypothesis that self-concept and reading achievement are related. In addition, there is evidence for viewing specific aspects rather than a global interpretation of the self-concept in relation to achievement-oriented situations.

Bruck (1959) obtained self-concept measures on 300 pupils from third to sixth grades of three public elementary schools and from the eleventh grade of a senior high school in Flint, Michigan. He found a positive and significant relationship between self-concept and grade point average at all grade levels.

Lumpkin (1959) matched 24 overachievers in reading and 24 underachievers for chronological age, mental age, sex, and home background at the fifth grade level. Overachievers revealed significantly more positive self-concepts, higher levels of adjustment, saw selves as liking reading, and were viewed positively by both teachers and peers. Underachievers had low academic achievement measures, negative perceptions of self, revealed a desire to be different from self as seen, expressed more feelings of conflict, and were viewed by teachers as having high problem tendency. He concluded, "It can be stated with confidence that in the group studied the concept of self which the individual accepts influences his behavior qualitatively and may determine the direction and degree of his expression in academic work as well as in his social relationships."

Bodwin (1959) studied 100 pupils with reading disability, 100 with arithmetic disability, and 100 with no educational disability from the 3rd and 6th grades in 3 elementary schools in Flint, Michigan and found a significantly positive relationship (a correlation of .72 at the third grade level and .62 at the 6th grade level) between immature self-concept and reading disability. The relationships between immature self-concepts and the disabilities studied were greater than for other school subjects.

Overstreet (1959) found a relationship between quality of self evaluations specific to the school area and academic achievement. Self evaluations derived from content analysis of a series of recorded interviews with ninth grade boys and their parents.

Hamachek (1961) obtained measures of growth and self-images of 100 children at the University of Michigan School who had attended three years or more. Self-concept measures included physical, social, achievement, and intellectual self-images. He found high intellectual and achievement self-images are related to reading age (Stanford Achievement Test), mental age, and educational age (average of reading, spelling, language, arithmetic comprehension and arithmetic reasoning ages).

Spicola (1960) in a study of 381 sixth grade boys in Florida found mental age, chronological age and school entrance age almost as predictive as seven correlates of reading combined including the self-concept. However, he states that more boys perceived self as inadequate in learning ability than were actually low, and boys perceiving self low were low in achievement even though 57% were average and above in mental age. He, also, found that the intelligence concept (the estimate of learning ability from item 1 on the Reeder Inventory) was better in predicting achievement than the general self-concept.

Coopersmith (1959) found a partial r of +.30 between Iowa Achievement Test scores and self-esteem in 5th and 6th grade children, when sociometric status was held constant.

Seay (1960) studied the relations between changes in reading skill and self-concepts accompanying a remedial program for boys with low reading ability and reasonably normal intelligence. The 72 boys were matched with a control

group (no reading problems) for age, grade and language factors I.Q. They were in grades 4 through 7. He states that changes in social self-concept levels and changes in total self-concept levels seem to be positively associated with experiences in a clinical remedial program. The control group showed changes for personal self-concept but not for social and total self-concepts. Changes in level of vocabulary, comprehension, and total reading skills were associated positively but not significantly with corresponding changes in levels of personal, social, and total self concepts.

A critical review of the literature on the self-concept by Ruth Wylie appeared in 1961. She does not review any studies in terms of specifically noting the relationship between self-concept and reading achievement. However, pertinent to this investigation is her comment on the influence of the self-concept on learning in experimental situations. She states, "A number of investigators have been concerned with the relationships between S's self-concept and his behavior in experimental learning tasks. The assumption is made that the self-concept characteristics are antecedent to the cognitive behavior. Sometimes it is explicitly assumed that this relationship is basically a matter of the influence of motivation upon learning. The three available studies (Cowen, Heilizer, & Axelroad, 1955; Cartwright, D., 1956; Bieri & Trieschman, 1956) "are impossible to synthesize into a common conclusion. We can only say that there does seem to be some evidence that R-R connections of this kind are worth exploring further."

Also pertinent to this investigation in terms of interest in induced success-failure and changes in the self-concept is Wylie's summary statement following a review of 15 experiments which explore various relationships between self-regard and experimentally induced success or failure. She offers her synthesis tentatively because "...each study involved a unique combination of assumptions, hypotheses, procedures, and measuring instruments." In her synthesis she makes the following statements:

1. "It seems that Ss will, under certain conditions, change their self-evaluations after experimentally induced success or failure. These changes are most likely to involve self-ratings on the experimental task itself, or on the characteristic which has been evaluated, and are least likely to involve global self-regard. The latter seems to be affected little if any by a single experimental failure or evaluation. There is some evidence that changes in self-rating upward after success are more frequent than are changes downward after failure."

2. "Whether or not changes in self-rating occur, there may be changes in 'covert' self-evaluation. However, it remains to be demonstrated that the 'covert' measures validly indicate covert self-evaluation."

3. "It seems that experimental failure may also lead to various defensive behaviors such as devaluing the source of failure information, failing to recall the low evaluations accurately,

engaging in behaviors which have brought self-esteem in the past, or blaming others for one's failure. In addition, there may be performance decrements on the task which threatens S with failure, and concomitant anxiety reactions may be seen."

4. "There is limited evidence to suggest that the following may be found to be associated with changes in self-evaluation or with self blame for failure: S's personality characteristics, such as his basic, global level of self-regard; S's test anxiety; the particular characteristics which have been devaluated in the experiment; the degree to which S values the source of his failure or success information and feels the source is well informed. It appears that S is influenced by reality considerations as well as by the desire for self-enhancement. Performance decrements and anxiety indicators on the experimental task may be greater in Ss whose basic level of self-regard is low."

Whylie's overall conclusion after her critical review of studies on the self concept is: "On the whole, we have found that there are enough positive trends to be tantalizing. On the other hand, there is a good deal of ambiquity in the results, considerable apparent contradiction among the findings of various studies, and a tendency for different methods to produce different results. In short, the total accumulation of substantive findings is disappointing, especially in proportion to the great amount of effort which obviously has been expended."

HYPOTHESES

After review of the literature, it was decided to establish the following hypotheses for the present study:

1. Measures of self-concept and ratings of self-concept, taken in the first semester of kindergarten will be predictive of later achievement in reading.
2. The correlation between measures and ratings of self-concept on the one hand and a mental test score on the other will be low. (In effect, the measures of self-concept will add substantially to the predictive efficiency of an intelligence test.)
3. The association between reading achievement and changes in measures of self-concept from kindergarten to second grade will be positive but low. (In effect, the self-concept is more important as a determinant of learning efficiency than learning experiences are in formation of the self-concept.)
4. Ratings of ego strength will show a high positive correlation with achievement in reading.
5. There are different aspects to the self-concept which can be separately measured and which will show only moderate inter-correlation. (Specifically, for kindergarten children self-concept as to competence will be more related to success in academic achievement than is self-concept as to goodness versus naughtiness.)

6. The self-concept will display some characteristics of defensive reactions. (Specifically, children verbalizing a high ratio of self-references will show lower success in reading than those not evidencing a preoccupation with self-characteristics.)

PROCEDURE

The following study design was used to test the hypotheses: A group of children in the first semester of kindergarten would be studied for the purpose of securing measures of their self-concept and ego strength. Use would be made of the standard testing program of the Detroit Public Schools to obtain an intelligence test score. Two years after their graduation from kindergarten, the children would be again contacted. The original procedures in respect to self-concept and ego strength would be repeated. In addition, measures of reading achievement would be obtained. These data would be treated statistically to determine the statistical significance with which the null form of the above-mentioned hypotheses could be rejected.

In the remainder of this section of the report, details will be given as to the population, the procedures for obtaining scores and ratings, and the statistical processing.

Sample. In view of the exploratory nature of the investigation and the possibility that there might be relationships specific to social class or to method of teaching reading, it was decided to base the study on two elementary schools in Detroit, both chosen because they were in relatively stable neighborhoods and because approximately half the children from the kindergarten of each transfer to a Catholic school which uses a somewhat different method of teaching beginning reading than did the public schools.

The two schools were chosen because they also represented a contrast as to socio-economic level of families, a fact which was reflected in a considerable difference over the years in the results reported for the schools in programs of mental testing.

Since the procedures required by the study were quite time-consuming, it was not possible to gather all data for every child during the first semester. (Children enter kindergartens in Detroit in September and again in January.) The children to be studied were selected by preparing cards with the names of all children, and then shuffling these cards.

In all, 269 children were enrolled in the kindergartens of the two schools. Complete data for the kindergarten year were gathered on 185. Table 1 displays the data as to the number of girls and boys in the classes of each teacher and the number who were used as subjects for the study.

TABLE 1

LOCATION OF ENROLLEES AND SUBJECTS IN KINDERGARTEN

	FIRST SEMESTER				SECOND SEMESTER				TOTAL	
	Middle Class School									
Teacher	Girls Enrolled	Ss	Boys Enrolled	Ss	Girls Enrolled	Ss	Boys Enrolled	Ss	Enrolled	Ss
A	14	5	15	5	11	10	11	11	51	31
B	10	8	18	12	-	0	-	-	28	20
C	13	5	15	6	13	12	10	10	51	33
Total	37	18	48	23	24	22	21	21	130	84
	Lower Class School									
D	13	7	17	9	-	-	-	-	30	16
E	14	8	15	11	9	9	17	17	55	45
F	14	9	16	7	-	-	-	-	30	16
G	-	-	-	-	7	7	17	17	24	24
Total	41	24	48	27	16	16	34	34	139	101
Grand Total	78	42	96	50	40	38	55	55	269	185

As might be expected, there was some attrition. Two years following their graduation from kindergarten 128 of the original 185 still were attending either the two public schools at which they had begun kindergarten or the two Catholic schools serving those school districts. Table 2 shows the location of the subjects as to school. Table 3 indicates the reasons for the shrinkage of the sample.

Measure of Intelligence. As a matter of routine, the Detroit public schools administer the Detroit Beginning First Grade Intelligence Test to all pupils near the close of the second semester of kindergarten. This test's results are recorded on all cumulative records in the form of a five-point series of letter grades. For purposes of the present study, these scores were used as the basis of all tabulations having to do with intelligence.

TABLE 2

LOCATION OF CHILDREN IN FOLLOW-UP STUDY
(N = 128)

	Middle Class Schools		Lower Class Schools		Total
	Public	Catholic	Public	Catholic	
Girls	11	17	11	16	55
Boys	14	17	21	21	73
Total	25	34	32	37	128

Measures of Self-Concept. For dealing with the self-concept, there existed no standardized measuring device or verified procedure applicable for kindergarten children. Accordingly, it was necessary to develop a procedure. The problem was complicated by the possibility that there might be several dimensions to the self-concept. It was finally decided to attempt to adapt the content-analysis procedure used for other purposes by Lois Stolz (1954) and apply it to obtain quantified measures of self-concepts which it was hoped might have reliabilities as high as those she had been able to obtain for subtle attitudinal phenomena. A detailed description of the method used to obtain quantified self-concept measures appear in the next subsection of this report.

In addition to these quantified measures, the teachers of the classes were also asked to rate the children in accordance with a set of instructions which will appear in the subsection entitled "Ratings of Self-Concept." Finally, a clinically trained interviewer was also asked to make ratings based upon observations in the classrooms and impressions during interviews.

TABLE 3

FACTORS IN SHRINKAGE OF SAMPLE

	Middle Class (N = 21)		Lower Class (N = 34)		
	Moved	Missing data*	Moved	Missing data	Total
Girls	7	4	14	2	27
Boys	5	5	15	5	30
Total	12	9	29	7	57

* Missing data included six reading test results, five intelligence test results, and five unclear tape recordings.

On the possibility that there might prove to be a distinction between self-concepts related to competence and those related to being good versus naughty, it was decided to secure full series of quantified measures and ratings for both aspects, which from this point forward in the report will be designated as Self-Concept (Competence) and Self-Concept (Good-Bad).

The Quantified Measures of Self-Concept. To obtain typescripts susceptible of content analysis for both dimensions of self-concept, it appeared promising to have tape recordings made of the remarks of children while drawing pictures of their families and then taking an incomplete sentences test. For the latter purpose a series of stems were written based on the areas used by Gesselì and Ilg (1946) and developmental tasks as listed by Havighurst (1948). A pilot study was made to test the procedure and the stems for usefulness with both kindergarten children and second graders. On the basis of this trial, the list of stems was reduced to the forty which appear below:

1. When it's your turn to be it in a game . . .
2. You may need help when . . .
3. If you climb up very high . . .
4. When you try to roller skate . . .
5. When children find something chat belongs to somebody else . . .
6. Since you've been going to school . . .
7. The nicest thing about when you were a baby . . .
8. When you're drawing a picture . . .
9. The things you do in school . . .
10. Something you have learned in school . . .
11. The way you feel when you're trying to learn something . . .
12. You would like to know enough to be able to . . .
13. When children go to school . . .
14. Something that makes you different from other kids . . .
15. If you didn't learn how to read . . .
16. Something you don't like about school . . .
17. You don't think you'll every be able to . . .
18. Most of all you wish that you were . . .
19. When the teacher scolds you . . .
20. Most of the time you feel . . .
21. If a boy or girl learns the most . . .
22. The nicest thing that can happen to you . . .
23. You wish you knew how to . . .
24. People say that you . . .
25. When you tell your mother what you did in school . . .
26. Most dreams . . .
27. People who read lots of books . . .
28. It is easy for you to pretend that you . . .
29. When the teacher helps you . . .
30. The teacher thinks your work in school . . .
31. What you can do best on the playground . . .
32. You think your school work is . . .
33. When you run fast . . .

34. When you get hurt . . .
35. You once broke a toy because . . .
36. If you break something . . .
37. If you don't learn things in school . . .
38. When a mother and daddy go out . . .
39. Your friends say . . .
40. When you do something wrong . . .

It will be noted that all stems were cast in the second person. This was done because in the pilot testing program many children showed confusion when the first person singular was used, and gave replies referring to the interviewer.

In the interviewing proper, the following standard procedure was used: First, the interviewer was present in the classes for several days during which she made observations and children had an opportunity to accept her as part of the school personnel. When the interviewing started, each child was taken individually by the interviewer to a room which contained a table, chairs for the child and the interviewer, and a tape recorder placed near the child's chair. The recorder was turned on when the child was brought into the room. Any questions asked about the recorder were answered briefly and simply. If the child expressed a desire to hear voices on the recorder he was told he could hear them later. Each child was told, "In this room you can talk as much as you want to and can say anything at all."

Paper and crayons were ready on the table for the child. The interviewer asked, "Would you draw for me, please, a picture of your family?" When the child finished drawing his family the interviewer asked for and wrote down the names of persons and the ages of children in the picture.

The interviewer then said, "When I start to say something I want you to finish it. If I say, for instance, 'Your name is . . .' what would you say?" If the child seem confused the directions regarding the sentence stems were repeated. After the child gave his name to finish the first sentence, the interviewer spoke each of his sentence stems listed above. These were on cards, which were shuffled prior to each interview. If a child did not respond to a stem, it was repeated. If he did not respond the second time, the interviewer went on to the next sentence stems. After all sentence stems had been spoken, the interviewer returned to the refused stems, and repeated each once more.

In order that the reader may have a more accurate impression of the nature of the material thus elicited, an example is given below. The Interviewer's remarks and questions are underlined:

> On this paper, Juanita, would you draw for me, please, a picture of your family?
> I can draw that very good. I think I can. I got a mommy, daddy, and a baby. I draw at home a ...when they was a little baby, but they're big now. I'm making the head kinda high. Make a neck like

that. My Ma showed me how to make a neck like this. It goes like this. And then I make legs. I'll do Marsha's. She make some down this way too. This is going to be my father. I make my brother messy hair, 'cause he don't comb his hair, just for Sunday school or school. This is going to be my father. I don't know how to make the head. I'll make my brother and sister and me real small, okay?

What?
Brother and sister. I'm going to make them small 'cause I don't have much room.

You can turn the paper over.
Now I have to make an eye up here like that. Now to make my sister. She's got nice long hair about this long. Marsha she going to come tonight. Not going to make hair, 'cause I can't. Just at home I make it curly. I'm going to make her about that small. There's my sister. Here's going to be my brother. He's got a small head. I don't have no room to make me. I'll have to do it on the other side. Today we're going to make a Christmas tree and put decorations on the window. I'm going to help too. Last Christmas I helped mama put the decorations on the Christmas tree. I'm all finished.

You're all finished?
That's my dad, that's me.

That's your dad. That's your sister. Your brother?
Uh Huh. And Juanita.

Is your brother younger than you?
Yes, 'cause he is much bigger than me. My sister is thirteen.

How old is your brother?
I don't know. About five.

How old are you?
Five.

When I start to say something I want you to finish it. If I say your name is what would you say?
Juanita.

When you run fast
I get tired.

The nicest thing about when you were a baby
I didn't mess the room up.

Since you've been going to school
It's fun.

When you tell your mother what you did in school
She like it.

Something that makes you different from the other kids
I don't like them. Some of them I do and some of them I don't.

If you break something
Ah, have to clean it up.

Something you don't like about school
Ah, some of the stuff I do is too hard.

Something you have learned in school
Songs.

When you do something wrong
Ah, I don't know that question.

You just talk about when you do something wrong
Ah, when I don't clean the room. Ma has to clean it. Ah, she says to keep the mess cleaned up.

You may need help when
Ah, I don't know that one.

You may need help when
Ah, when I can't do something

Most of the time you feel
Ah, my head hurts.

The way you feel when you're trying to learn something
Ah, my stomach hurts.

If you climb up high
You'll fall.

If you don't learn things in school
You can't do it.

People say that you
Are good.

When you try to roller skate
I fall.

When children go to school
Ah, don't hit 'em.

If a boy or girl learns the most
Ah, I don't know that one.

If a boy or girl learns the most
Ah, ah, you might do the wrong thing.

The things you do in school
Ah, is fun.

You wish you knew how to
Ah, ah, ah, draw a Santa Claus.

Most of all you wish that you were
At somebody's house.

If you didn't learn how to read
I would, ah, I would ah, I would tell my sister. I would tell my sister about it.

People who read lots of books
They read good.

When the teacher scolds you
Ah, you have to sit down.

When a mother and daddy go out
Ah, ah, if you're sick you can't go out.

You don't think you'll ever be able to
Ah, I don't know that one.

You don't think you'll ever be able to
Ah, to ah, ah, ride my bike up the driveway and ride it down.

When children find something that belongs to somebody else
Ah, they give it back.

When the teacher helps you
Ah, you do what she says.

When you're drawing a picture
You have to do it the way Miss Jerry does it.

What you can do best on the playground
Ah, I don't know that one. I can't say that one.

It is easy for you to pretend that you
In the playhouse at home.

Your friends say
Ah, let's play.

You think your school work is
Good.

You would like to know enough to be able to
Ah, draw nice picture.

The nicest thing that could happen to you
Ah, is for Mrs. Jerry to like me.

You once broke a toy because
Ah, I stepped on it.

When it is your turn to be it in a game
You let somebody else have a turn.

When you get hurt
You, you, ah, I have to tell my mother.

The teacher thinks your work in school is
Good.

Most dreams
Ah, is nice.

Two independent raters coded the typescripts which were prepared from the tape recordings. The procedure was for them to divide the child's remarks into thought units. Each thought unit was categorized as to whether or not it constituted a self-reference. The self-references were further coded as to whether they constituted mentions of competence, of goodness vs. badness, or of other issues. The competence mentions and the good-bad mentions were classed as positive, negative or neutral.

The directions for coding are reproduced below:

Thought Unit

The basic thought unit contains at least one independent clause and includes further, if they are present, the words, phrases, or dependent clauses that are related to the idea expressed in the independent clause. Two independent clauses are bracketed as one thought unit only when one qualifies the other in terms of a causal relationship, i.e., one independent clause begins with "because" and is directly related to the thought expressed in the other independent clause.

The essence of the thought unit stems from the independent clause, but the whole clause may not necessarily be verbalized by the child. For example, to the stem "Most of the time you feel..." the child may simply respond "good" rather than "I feel good."

There are three exceptions to the definition of a basic thought unit. First, there is always a separation of the child's thought units by the interviewer's statements which are underlined in the typescripts.

The second exception concerns the listing of accomplishments or of what the child does in school, or the labeling of spontaneous references to his work. For examples, when the child describes what he has learned, a separate thought unit is bracketed for each skill. Similarly, if the child describes what he does in school, bracket separately each different skill in which he indicates personal participation. Finally, each aspect of his picture to which he spontaneously calls attention is bracketed as a separate thought unit.

Surplus words constitute a third possible exception to definition of a basic thought unit. They are handled as follows:

A series of words that do not make "sense" are bracketed together as a single thought unit.

Stammering kinds of statement are included with the thought unit to which they are nearest. Example: "The...the...takes... Joey take me" -- one thought unit.

Words, or a single word, standing alone are included in the following unit if they give emphasis to that unit. Examples: "I guess I would..." "Oh. I forgot her neck" "Heeck. Ahhsshew...I... first I forgot..." one unit each.

When the child delays his response by saying initially, for example, "yeah", "oh", or "ahmmm", the word is bracketed with the thought unit following.

When a child repeats a statement in sing song fashion the repetitions are bracketed as a single thought unit unless the child changes his wording.

Spontaneous recitations of poems or stories or the singing of songs are bracketed as one thought unit for the whole poem, story, or song.

Self Reference

A self reference is a thought unit which has as its subject, either stated or "understood", the child's name or first person pronoun. Occasionally a child will ungrammatically use "me" instead of "I" as a subject in a clause which, since it is the subject of the statement, indicates a self reference. The self reference may stem from the dependent clause part of a thought unit. Thus, "I fall down", "When I fall down...", and "fall down" indicate self references, but "You fall down" is not classified as a self reference. If the subject is "understood" and there is doubt whether or not the unit is a self reference, a reading of the statement using I as a subject may determine the classification of the unit.

The only exceptions to the above criteria for classification of a self reference is when the child uses his name, specifically stated, in any fashion, e.g., "they call me Bill.", or when the thought unit may be further classified as a competence or good-bad unit without the stated or understood "I" as the subject.

Competence Unit

A thought unit is further classified as a competence unit when it may be interpreted as inferring the child has feelings of competence--positive, neutral, or negative. The competence units include statements in which the child indicates participation in a task oriented situation, an evaluation of his orientation to using his skills, or an evaluation of his performances.

A repetition of a statement without any change of wording is bracketed as a thought unit or self reference (if the subject is in the first person) rather than a second competence unit for the same statement.

Competence units are classified A+, A or A- according to the following criteria:

A+

1. Expression of an ability to do something. Examples: "I can...", "This is easy.", or the child indicates learning of a skill beyond "play" in response to the statement "What you can do best on the Playground...".

2. Reference to a finished task or past accomplishments. Examples: "I'm through.", "I did...". This criteria may be expressed in the child's historical present tense, e.g., "At home I...", and finishing with an expression of competence in accomplishing something.

3. Knowledge indicated. Examples: "I know...", "I learned in school...".

4. Spontaneously calls attention to work while drawing. Examples: "This is my...", "[illegible] this." "A tepee!"

5. The child expresses a positive evaluation of his work by himself or others. Examples: "The teacher thinks my work in school is good." "I do this good."

6. Inference of a competent orientation under stress. Example: the child states he got a band aid instead of crying when he hurt himself.

7. The child infers he has an untroubled or conflict free orientation to using his skills. Examples: The child states he feels "happy" when he is trying to learn something. The child refers to himself as big or grown up.

A

1. Abilities are expressed in the present or future tense without an evaluation such as in 5 under A+. Examples: "I will do that" or "I am making".

2. Implication the child can do something but has not carried it out. Example: "I have to...".

3. Neutral evaluation of work. Example: "My drawing is fairly good".

4. Conjectures. Example: "If I didn't know what to do, I would learn."

A-

1. Denial of an ability to do something unless conditional or hypothetical circumstances are specifically stated. Example: "I can't...", "This is hard."

2. Denial of knowledge. Example: "I don't know." "I don't remember."

3. Negative evaluation of his work. Examples: "I made a mistake." "This is no good."

4. Inference of feelings of incompetence under stress. Examples: "I run to mama when I'm hurt." "I get scared."

5. Inference of feelings of incompetence in his orientation to learning. Examples: "I'll fail." "I'm worried" or "sad when trying to learn something." "I'm stupid." "I need help."

6. Inference of general feelings of incompetence. Example: "I'm stupid" or the child infers he feels he's a baby or doesn't believe he can ever grow up.

Good-Bad Unit

A good-bad unit is an evaluation of the child as a person or of his actions. The evaluations are classified G+, G, or G- according to the following criteria:

G+

1. Alibiing.

2. Inference that people like the child.

3. Specifically expresses regret. Example: "I am sorry."

4. Moral evaluation of himself or his actions that is positive.

5. The response "good" to the statement "Most of the time you feel..." If the child responds "fine" to this statement or indicates he was referring specifically to his health, it is scored as a self reference alone.

6. A positive evaluation of the child or his actions by others. Example: The child responds that his mother thinks he's a good boy when he tells her what he did in school.

G

Neutral or "do-don't" statements. Examples: "When I break something I say I'm sorry", or the generalized imperative statements such as "Be good."

G-

1. A negative evaluation of self or actions that is not task oriented. Example: "I'm bad."

2. An inference that people don't like the child.

3. A statement that the child has been punished. Examples: "When I told my mother what I did, she spanked me." "I was put in the corner."

The letter "A" was used to designate competence mentions; "G" designated good-bad mentions. The plus sign designated positive statements; the minus sign, negative statements.

After coding, the raters summarized frequencies for each typescript on tabulation sheets, a sample of which is reproduced in Figure 1, as shown on the next page. The worksheets used to compute the quantified measures are illustrated in Figure 2, shown on the page after that.

It will be noted that these tabulations provided either scores or ratios as to number of thought units, number and proportion of these which were self-references, the number and proportion of competence references and of good-bad references. For the last two it was possible to compute the ratio of favorable statements to all others. It is these last two ratios (lines 14 and 15

FIGURE 1

TABULATION SHEETS

	Total
[ ]	
✓	
G+	
G-	
G	
A+	
A-	
A	

For transfer to summary worksheet.

1. **Grand total**_____
2. **Total Self (1 -[ ])**_____
3. **Total Good-Bad (G+, G-,G)**_____
4. **Positive Good-Bad (G+)**_____
5. **Negative Good-Bad (G-)**_____
6. **Neutral Good-Bad**_____
7. **Total Competence (A+, A-, A)**_____
8. **Positive Competence**_____
9. **Negative Competence**_____
10. **Neutral Competence**_____

FIGURE 2

SUMMARY WORKSHEET FOR ANALYSIS OF TYPESCRIPTS

Rater_____ Year _____

Child's Serial Number_____

(1) Total Thought Units . . . . . _____

(2) Total Self References . . . . . _____

(3) Total Self References (Good-Bad) . . . . . _____

(4) Positive . . . . . _____

(5) Negative . . . . . _____

(6) Neutral . . . . . _____

(7) Total Competence Self-References . . . . . _____

(8) Positive . . . . . _____

(9) Negative . . . . . _____

(10) Neutral . . . . . _____

(11) Ratio of Self-Reference to Total (2÷1) . . . . . _____

(12) Ratio of Good-Bad Self-References (3÷2) . . . . . _____

(13) Ratio of Competence Self-References (7÷2) . . . . . _____

(14) Ratio of Favorable Good-Bad References (4÷3) . . . . . _____

(15) Ratio of Favorable Competence References (8÷7) . . . . . _____

on the Summary Worksheet) which were used as the Quantified Self-Concept (Competence) and Quantified Self-Concept (Good-Bad) scores, and they are so designated in this report.

From a methodological viewpoint there was great interest in the inter-rater reliabilities obtained for this procedure. In Table 4 will be found the Pearson product-moment correlations for the five measures which will be used in the tabulations reporting the findings.

TABLE 4

PRODUCT-MOMENT CORRELATIONS BETWEEN SCORES AS TABULATED BY THE TWO CODERS

Measure	Kindergarten Typescripts (N, 161)	Second Grade Typescripts (N, 145)
Total Self-References	.96	.91
Competence Mentions	.89	.77
Good-Bad Mentions	.85	.94
Favorable Ratio for Competence (Quantified Self-Concept (Competence))	.89	.82
Favorable Ratio for Good-Bad (Quantified Self-Concept (Good-Bad))	.75	.71

Judging by the order of magnitude of these inter-rater reliabilities, the content-analysis procedure compares in trustworthiness with standardized intelligence testing. Unfortunately, at this stage in the development of the art it is not possible to comment with equal confidence as to the validity of the procedure. This remains a task for future research.

Ratings of Self-Concept. In addition to using the quantified measures as described above, both the interviewer and the child's teacher were asked to provide ratings based on their observations as to the child's self-concept (competence) and his self-concept (good-bad). The instruction sheet for the ratings is reproduced as Figure 3, which appears on the following page.

Rating of Ego Strength. In the original planning of the study it had been hoped to secure for each child a psychiatric judgment of his ego-strength, as that attribute would be judged by a highly experienced psychoanalyst. One of the disappointments encountered was the fact that as material on the children began to accumulate the psychiatric consultant to the project finally came to

FIGURE 3

RATING INSTRUCTIONS

Please rate each child on your estimate of:

(1) How competent he seems to think he is,
(2) How good or bad he seems to think he is, and
(3) How strong an "ego" he seems to have.

A strong ego would be shown by a child who seems to act on a fairly good estimate of reality, who exercises good self-control, who is able to stick with a task, and who can use spontaneous imagination. (Weakness in any or all of the above would be signs of a weak ego.)

RATING SCALES:

COMPETENCE: 0 - Child seems to feel entirely incompetent

1 - Child has a low opinion of his ability most of the time

2 - Child has an average opinion of his ability

3 - Child is above average in his opinion of his own ability

4 - Child is very confident

5 - Child has an excessively high opinion of his ability

GOOD - BAD: 0 - Child seems to think he is almost beneath contempt

1 - Child seems to feel he is naughty most of the time

2 - Child is about average in his opinion of himself

3 - Child seems to be somewhat above average in his opinion of himself

4 - Child seems to think he is very good

5 - Child acts like he owns a halo

EGO-STRENGTH: (see indications listed in opening paragraph) 0 - Ego so weak that emotional difficulties may develop in the future

1 - Ego is weak, but not the point where the child would be considered unusual

2 - Ego is strong and healthy

the conclusion that a global score suitable for statistical treatment for the entire sample could not be given with any confidence except on the basis of case studies not feasible in terms of cost and of staffing.

However, using only a partial description of all implied by the term, "ego strength," the clinically trained interviewer and the teachers were asked to make ratings. Readers are cautioned to note carefully the definition used for this purpose, as it appears in Figure 3. Interpretations of the findings on this point are limited by that definition.

Reading Achievement. Two measures of reading achievement were utilized. As a gross indication of progress, note was taken of the grade level designation of the book in which each child was found to be reading two years after completion of kindergarten. In both the public and Catholic schools this could be considered as a very general indication of success or failure. For purposes of tabulations the children were divided into two groups: (1) Those reading in a book designated by the publisher as appropriate for the second semester of the second grade, or higher, and (2) those reading in books for the first semester of the second grade or lower.

After considerable discussion it was decided that because of the vast difference in vocabularies in the two textbook series used in the different schools it would be misleading to attempt to use a single test of reading ability. Accordingly, each child was tested on the test for the reading series produced by the publisher.

Cumulation of data. The worksheet reproduced in Figure 4, on the next page was used for the final accumulation of data on each child.

The only item which may need explanation is the "C", "I" and "Av" columns. The initials refer to the two raters. The "Av" refers to the average of their quantified scores. It was these averages which were used in all tabulations and computations.

Statistical Treatment. The data on the final worksheet were coded and placed on punch cards for use in a computer.

Two separate series of tabulations were prepared. In the first series, the material was related to the gross, book-placement, dichotomized indication of reading progress. All other distributions were likewise dichotomized. Four-cell tables were prepared, chi-squares corrected for continuity were calculated, and the distributions were tested for the level of confidence with which the null hypothesis to those specified earlier could be rejected in accord with one-tailed tests.

In the second series, recognition was given to the possibility that both reading achievement and the measures of the several independent variables might all be influenced by factors linked to sex, socio-economic class, and the difference in reading methods used in the public and the Catholic schools. Accordingly, the several combinations were used to determine sub-classes. For

FIGURE 4

STUDY ON SELF-CONCEPT AND READING

Name of Child _____ Serial No. _____

ITEM		1958	1961	Change
Home Address				
School				
Grade				
Teacher				
Mental Rating	Test			
	Date			
	Score			
Reading Test	Test			
	Date			
	Score			
Interview Date				
Draw-a-Family Size Rating				
Percent Self-References		C. I. Av.	C. I. Av.	
Competence	% Mentions			
	% Favorable			
Good-Bad	% Mentions			
	% Favorable			
Teacher's Ratings	Competence			
	Good-Bad			
	Ego			
Psychiatrist's Ratings	Competence			
	Good-Bad			
	Ego			
Interviewer's Ratings	Competence			
	Good-Bad			
	Ego			

each subclass the association for the variables was established so far as possible by the Spearman rank-order technique. Only those subgroups will be reported where the N was 5 or higher, because for smaller groups a correlation of 1.00 is required to yield a significance level of .05, even using a one-tailed test. As will be judged by the list of subgroups and their N's reported in Table 5, there clearly are strong associations between reading success, as indicated by grade placement in book series two years after completion of kindergarten, and each of the bases for subgrouping.

TABLE 5

LIST OF SUBGROUPS AND THEIR FREQUENCIES

Sex	Subgroups Class	School	Grade Level of Book	N
Boy	Lower	Public	I	7
Boy	Lower	Public	II-1	13
Boy	Lower	Catholic	II-1	11
Boy	Lower	Catholic	II-2	10
Boy	Middle	Public	II-1	7
Boy	Middle	Public	II-2	7
Boy	Middle	Catholic	II-1	10
Boy	Middle	Catholic	II-2	7
Girl	Lower	Public	II-1	10
Girl	Lower	Catholic	II-1	5
Girl	Lower	Catholic	II-2	11
Girl	Middle	Public	II-2	10
Girl	Middle	Catholic	II-1	11
Girl	Middle	Catholic	II-2	6

In view of this verification of the need for subgrouping in order to achieve the equivalent of partialling out the effects of highly potent factors which could otherwise overcome or becloud the effects of the variables in which we were interested, it was decided to confine the second series of tabulations to the subgroups as previously listed. In the tabulations reporting these results, the rank order correlations will be shown and the levels of significance reported using one-tailed tests in accordance with the one direction of the hypothesis as stated for each.

FINDINGS

From the material given above on procedure the reader will recall that the first series of findings to be reported has to deal with the relationship among the several variables as these appear in dichotomized distributions tested by the chi-square technique using the continuity correction and reporting levels of significance.

Before giving results for the relationships of the several independent variables to reading level, the relative unrelatedness of the self-concept measures to intelligence and of the two aspects of self-concept should be made clear. In Table 6, the reader will find the results as far as the relationship between the quantified self-concept (competence) score and the intelligence test scores. It will be noted that tabulations indicate a slight negative relationship (a frequency of 58 in the congruent cells versus 70 in the non-congruent). However, on a two-tailed test this would have a level of confidence poorer than the .20 level.

The scores for the quantified measures and self-concept (good-bad) and self-concept (competence) appear in Table 7. It will be noted that although there is a slight positive relationship, it is quite weak. On a two-tailed test, the level of confidence would be poorer than .30.

Turning now to the more interesting question of the relationship between book placement in reading and certain of the measures, it will be noted from Table 8 that there was a slight positive association between the dependent variable and the intelligence test scores, which on a one-tailed test approximated the .50 level of confidence. As to the quantified self-concept scores, Table 9 shows that the competence scores had a stronger positive association, which reached a .15 level of confidence. However, the self-concept (good-bad) score was linked to the reading-book placement in a fashion contrary to the hypothesis, as shown in Table 10.

On the question of the association between reading-book placement and change in quantified self-concept scores as measured by subtracting the kindergarten scores from those found at the second grade level, again there was a division in direction as compared with that which had been hypothesized. For self-concept (good-bad) those children reading in the book appropriate to their grade level, as indicated in Table 11, showed a tendency toward a positive shift in quantified score significant at the .05 level. However, these same children showed shift in the negative direction on self-concept (competence), as shown in Table 12. This, of course, could be an artifact of the positive association between reading-book placement and quantified self-concept (competence) score in kindergarten. This same artifact will be noted later when we deal with the rank-order correlations for subgroups.

As had been pointed out in connection with comments on Table 5, the extent to which such factors as sex, reading method, and socio-economic variables confounded the situation undoubtedly affected this first series of tabulations. Accordingly, greater reliance was placed on the second series in which the rank-order correlation technique was applied to the several subgroups. The first of the tables based on this procedure appears as Table 13.

In this table it will be noted that whereas for the intelligence test nine of the fourteen correlations have a sign indicating accord with the hypothesis of positive relationships and one of these is significant at the .05 level, for the self-concept (competence) the number of positive correlations was ten, with two at the .05 level. For the self-concept (good-bad) the comparable figures showed eleven of positive sign, with three at the .05 level and an additional one at the .01 level.

TABLE 6

RELATIONSHIP BETWEEN INTELLIGENCE TEST SCORES AND QUANTIFIED SELF-CONCEPT (COMPETENCE) SCORES IN KINDERGARTEN

Intelligence Test Score	Quantified Self-Concept (Competence)		Total
	High	Low	
High	27	34	61
Low	36	31	67
Total	63	65	128

Corrected Chi-Square 1.368

Degrees of Freedom 1

$.20 < P < .30$

TABLE 7

RELATIONSHIP BETWEEN QUANTIFIED SCORES OF SELF-CONCEPT (COMPETENCE) AND SELF-CONCEPT (GOOD-BAD) IN KINDERGARTEN

Self-Concept (Good-Bad)	Self-Concept (Competence)		Total
	High	Low	
High	38	29	67
Low	29	32	61
Total	67	61	128

Corrected Chi-Square 0.74

Degrees of Freedom 1

$.30 < P < .50$

TABLE 8

RELATIONSHIP BETWEEN GRADE-PLACEMENT OF BOOK IN WHICH PUPIL WAS READING TWO YEARS AFTER KINDERGARTEN AND INTELLIGENCE TEST SCORES IN KINDERGARTEN. (DICHOTOMIZED DISTRIBUTION)

Intelligence Test Score*	Grade Placement		
	Below Grade Level	At Grade Level	Total
High	35	26	61
Low	40	27	67
Total	75	53	128

*NOTE: For purposes of this distribution students earning a letter grade of A or B on the test were placed in the "high" group; those earning C, D, or E, in the "low."

Corrected Chi-Square .007

Degrees of Freedom 1

P $<$ .475

TABLE 9

RELATIONSHIP BETWEEN GRADE-PLACEMENT OF BOOK IN WHICH PUPIL WAS READING TWO YEARS AFTER KINDERGARTEN AND QUANTIFIED SELF-CONCEPT (COMPETENCE) SCORES

Self-Concept (Competence)*	Grade Placement		
	Below Grade Level	At Grade Level	Total
High	28	26	54
Low	47	27	74
Total	75	53	128

*NOTE: This distribution was dichotomized by using a cutting score designed to give proportions similar to those in book-placement distribution.

Corrected Chi-Square 1.32

Degrees of Freedom 1

P $<$ .15

TABLE 10

RELATIONSHIP BETWEEN GRADE-PLACEMENT OF BOOK IN WHICH PUPIL WAS READING TWO YEARS AFTER KINDERGARTEN AND QUANTIFIED SELF-CONCEPT (GOOD-BAD) SCORES IN KINDERGARTEN

Self-Concept (Good-Bad)*	Grade Placement		
	Below Grade Level	At Grade Level	Total
High	33	20	53
Low	42	33	75
Total	75	53	128

*NOTE: This distribution was dichotomized by using a cutting score designed to give proportions similar to those in the book-placement distribution.

Corrected Chi-Square 0.277

The direction of relationship represented by this table is contrary to hypothesis. Accordingly, no level of significance applies.

TABLE 11

RELATIONSHIP BETWEEN GRADE-PLACEMENT OF BOOK IN WHICH PUPIL WAS READING TWO YEARS AFTER COMPLETION OF KINDERGARTEN AND CHANGE IN QUANTIFIED SELF-CONCEPT (GOOD-BAD)

Change in Self-Concept (Good-Bad)*	Grade Placement		
	Below Grade Level	At Grade Level	Total
High	26	27	53
Low	49	26	75
Total	75	53	128

*NOTE: This distribution was dichotomized by using a cutting score designed to give proportions similar to those in the book-placement distribution.

Corrected Chi-Square 2.752

Degrees of Freedom 1

$P < .05$

TABLE 12

RELATIONSHIP BETWEEN GRADE-PLACEMENT OF BOOK IN WHICH PUPIL WAS READING TWO YEARS AFTER KINDERGARTEN AND CHANGE IN QUANTIFIED SELF-CONCEPT (COMPETENCE)

Change in Self-Concept (Competence)*	Grade Placement		
	Below Grade Level	At Grade Level	Total
High	36	17	53
Low	39	36	75
Total	75	53	128

Corrected Chi-Square 2.622

*NOTE: This distribution was dichotomized by using a cutting score designed to give proportions similar to those in the book-placement distribution. Here, as in Table 10, the direction of the relationship is contrary to that hypothesized; no level of confidence figure would make sense.

TABLE 13

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN READING TEST SCORES AND QUANTIFIED MEASURES OF MENTAL ABILITY AND SELF-CONCEPT

Sub-Group			Grade Level of Book	N	Rank Order Correlation		
Sex	Class-Level	School			Mental Test	Self-Concept (Competence)	Self-Concept (Good-Bad)
Boy	Lower	Public	I	7	.26	-.59	-.23
Boy	Lower	Public	II-1	13	.36	-.23	.12
Boy	Lower	Catholic	II-1	11	-.15	.19	.72*
Boy	Lower	Catholic	II-2	10	.25	.16	.44
Boy	Middle	Public	II-1	7	.09	.46	.58
Boy	Middle	Public	II-2	7	.37	.86*	.36
Boy	Middle	Catholic	II-1	10	-.04	.06	.07
Boy	Middle	Catholic	II-2	7	.65	.05	.96**
Girl	Lower	Public	II-1	10	.22	.32	.66*
Girl	Lower	Catholic	II-1	5	.25	-.30	.30
Girl	Lower	Catholic	II-2	11	.71*	-.01	.09
Girl	Middle	Public	II-2	10	-.12	.24	.59*
Girl	Middle	Catholic	II-1	11	-.39	.06	-.68
Girl	Middle	Catholic	II-2	6	.39	.85*	-.07

* Significant at .05 level, one-tailed test.

** Significant at .01 level, one-tailed test.

An examination of the table in detail shows that the positive effects and the ones with good levels of significance scatter among the categories as one would expect where working with this size of sample. The distribution of positive scores and of high levels of confidence substantially exceeds chance expectations for the two self-concept measures. Of the two, that for self-concept (good-bad) gives an especially impressive performance.

The readers will recall that, in addition to the use of quantified scores, efforts were made to obtain ratings for both self-concept dimensions and for ego-strength as well. In all cases, a positive correlation with reading score was hypothesized. The material on the ratings appears in Tables 14, 15, and 16. These show the ratings by teachers and by the interviewer made both in the kindergarten and in the second grade.

Of the ratings made in the kindergarten for self-concept (good-bad), there was a yield of 22 positive correlations, 5 negative, and one .00. Of these, three yielded .05 levels of significance and one additional one a .01 level. As with other results there was no indication that the effect was limited to one sex, one socio-economic level or one method of teaching reading.

Table 15, giving the data in respect to the ratings of self-concept (competence) shows a somewhat weaker but nevertheless positive relationship. Nineteen of the 28 correlations are positive. Of these, once again, three held at the .05 level and an additional one at the .01 level. Again, there was no limitation on the nature of the subgroups indicating that the effect held true for cases where there was control on only one variable.

The final series of ratings, as shown in Table 16, dealt with "ego strength," for which no quantified measure was attempted. For this, also, twenty-two of the correlations referring to the kindergarten were of the hypothesized sign. Again there were three at the .05 level and an additional one at the .01 level.

The reader will recall that one of the questions leading to this study had to do with whether self-concept factors were causal to reading achievement or, by contrast, reading experiences of success or failure were reflected in changes in self-concepts. Table 17 deals with this question. It had been hypothesized that there would be a positive correlation between reading achievement and changes in self-concepts.

The material in Table 17 fails to support this hypothesis. It will be noted that there is a trend toward negative correlations. For the 28 sub-groups, negative correlations appear for 17. It should be pointed out that in view of the fact that there had been a positive association generally shown between reading achievement scores and self-concept scores in the kindergarten, the normal phenomenon of regression would have produced negative correlations with a measure of change. That is to say, high scores would tend to become lower and low scores would tend to become higher. Therefore, a positive correlation in the first instance would tend to yield a negative correlation in the second.

In a sense, the two series of correlations taken together give a fair test to the original question. We can now say with some confidence that the original self-concept measures have the more powerful effect. They are so strong that by comparison any tendency for reading to produce change in self-concept is too weak to overcome the regression phenomena. This, once again, is a subject calling for thorough replication.

One last relationship with reading achievement remains to be explored. There has been some evidence that the relationship between academic achievement and self-concept measures might be curvilinear. This raises the question as to the extent to which defense mechanisms might influence self-concept scores. For this reason it was felt desirable to get some measure of defensiveness. It was hypothesized that preoccupation with self might be indicative of such defensiveness. Among the measures resulting from the content analyses of the typescripts were three which it was tentatively assumed might reflect such preoccupation. These were the proportion of all thought units which were self-references, the proportion which mentioned competence, and the proportion which mentioned the good-bad dimension. If, indeed, these measures had this defensive quality it would be shown in negative correlations with reading achievement.

The analyses made of this matter are reported in Table 18. It will be noted that the self-reference ratio and the competence mention ratio both performed as hypothesized. Of the 28 possible rank order correlations, 18 are negative, with three showing a .05 level of confidence and an additional one a .01 level. The good-bad mention ratio acted contrary to expectations.

Another major question it was hoped this study would illuminate had to do with the extent to which in any prediction of reading achievement made in the kindergarten the measures of self-concept would add to the predictive efficiency now possible through intelligence tests. To get at clues on this matter rank order correlations were run between the intelligence test scores and the other measures taken in the kindergarten, using for the sake of uniformity in presentation and consequent ease of comparison the same sub-groups. The series of these tabulations appear in Tables 19, 20, and 21.

In the series the reader will note that, as had been true in a similar test of dichotomized distributions, the relationship came close to being at the chance level. Of the 28 rank-order correlations fourteen were positive and fourteen were negative. In only one case, did such a correlation attain an hypothesized positive correlation at a .05 level of significance. Once again, this is the proportion expected by chance.

However, with the various ratings, the trend toward positive correlations was strong. Of the 28 correlations dealing with ratings of self-concept (good-bad), 22 are positive, with five at the .05 level and one additional one at the .01 level. For self-concept (competence), once again there are 22 positive correlations, with four significant at the .05 level.

The situation as to ratings of ego strength is even more striking. For those ratings, 25 correlations proved positive, with five at the .05 level and an additional one at the .01 level.

This trend in the data looks very much as though all the ratings are being influenced by something like a halo effect linked to intelligence. At any rate it appears uncertain that the ratings would add to the predictive efficiency of intelligence tests, although whatever is measured by the quantified scores is indeed an addition.

These findings gave rise to questions concerning the extent to which the several measures of self-concept were intercorrelated.

In Table 22 will be found the rank order correlations by subgroup between the quantified score for self-concept (competence) and the ratings for self-concept (competence) made in the kindergarten. It will be noted that 24 of the 28 correlations are positive in sign and that two are at the .05 level and one additional one at the .01 level.

By contrast, Table 23, showing the correlations between the quantified self-concept (competence) scores and the several measures of self-competence (good-bad) made in the kindergarten presents a picture of almost random relationships. Of the 42 possible correlations, 29 are positive and two (chance expectation) at the .05 level. This would appear to bear out the earlier finding from dichotomized distributions that the two aspects of the self-concept were indeed different and not too highly related.

In Table 24, dealing with the kindergarten ratings of ego strength, a stronger relationship is apparent. Here, of the 28 intercorrelations, 25 are positive, one at the .05 level and another at the .01 level.

In Table 25, dealing with the indices of "defensiveness," the self-reference ratio and competence mention ratio continue to show the same trends as they did with respect to their correlation with reading achievement. Of the 28 correlations, 19 have the predicted negative correlation, with two at the .05 level. The good-bad mention ratio continues to show its unexpected trend contrary to hypothesis.

Turning finally to the intercorrelations involving the quantified measure of self-concept (good-bad), Table 26 shows its relationship to the ratings on the same dimension at the kindergarten level. Of the 28 correlations, 19 are positive, one at the .05 level and two at the .01 level. In this case, the teachers made an unusually interesting and good showing.

Also of interest, as revealed in Table 27, are the correlations between the quantified self-concept (good-bad) measure and the kindergarten ratings of self-concept (competence). Here, although only 17 of the 28 were positive, two were at the .01 level of confidence and an additional one at the .05 level.

This same tendency toward a high association between ratings and the quantified self-concept (good-bad) measure is shown by the ratings of ego strength. Here, as displayed in Table 28, 24 correlations were positive, one at the .01 level and five more at the .05 level.

Additional light may emerge from Table 29, which gives the correlations between the quantified self-concept (good-bad) scores and the indices to defensiveness. Contrary to previous series, the self-reference ratio and the competence mention ratio show a random relationship. Exactly half, 14, of the correlations are negative, as required by hypothesis. Of these one shows a .05 level of confidence; precisely chance expectation.

The big surprise is in the good-bad mention ratio, which goes strongly contrary to hypothesis. In this instance, and it is the only one reported in the study, the strict protocol justifying use of one-tailed tests is violated. It is noted in the table that if we had set up the contrary hypothesis, 11 of the 14 correlations would have been in accord, with four at the .05 level and an additional one at the .01 level.

This finding may warrant the speculation that in addition to any halo effect on ratings generated by the results of intelligence, the ratings are also sensitive to a halo effect linked to the propensity of children to show verbal concern with being good. This, like some other findings, should be tested by new methods or by replication or both.

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 14

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN READING TEST SCORES AND RATINGS OF SELF-CONCEPT (GOOD-BAD)

Sub-Group			Grade Level of		Rank Order Correlations			
					Ratings by			
					Teacher		Interviewer	
Sex	Class	School	Book	N	Kdg.	2nd Grade	Kdg.	2nd Grade
Boy	Lower	Public	I	7	-.50	.20	.13	.67
Boy	Lower	Public	II-1	13	-.11	.12	.28	.09
Boy	Lower	Catholic	II-1	11	.59*	.33	.03	-.18
Boy	Lower	Catholic	II-2	10	.56*	.39	.78**	.63*
Boy	Middle	Public	II-1	7	-.41	.57	.23	-.47
Boy	Middle	Public	II-2	7	.25	-.14	-.10	.29
Boy	Middle	Catholic	II-1	10	.30	.06	.40	.10
Boy	Middle	Catholic	II-2	7	.57	.24	.09	.35
Girl	Lower	Public	II-1	10	.57*	.10	.11	.20
Girl	Lower	Catholic	II-1	5	-.12	.33	.03	-.37
Girl	Lower	Catholic	II-2	11	.52	-.16	.06	-.30
Girl	Middle	Public	II-2	10	.51	.33	.39	.33
Girl	Middle	Catholic	II-1	11	.13	.75**	.13	-.08
Girl	Middle	Catholic	II-2	6	.48	.72	.00	.48

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 15

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN READING TEST SCORES AND RATINGS OF SELF-CONCEPT (COMPETENCE)

Sub-Group			Grade Level of		Rank Order Correlations Ratings by			
					Teacher		Interviewer	
Sex	Class	School	Book	N	Kdg.	2nd Grade	Kdg.	2nd Grade
Boy	Lower	Public	I	7	-.21	.17	.08	.00
Boy	Lower	Public	II-1	13	.19	.17	.27	.13
Boy	Lower	Catholic	II-1	11	.70*	.36	.12	.60*
Boy	Lower	Catholic	II-2	10	.27	.44	.43	.10
Boy	Middle	Public	II-1	7	-.50	.65	-.27	.29
Boy	Middle	Public	II-2	7	-.27	.15	.72*	-.27
Boy	Middle	Catholic	II-1	10	.40	.07	-.02	-.41
Boy	Middle	Catholic	II-2	7	.35	.49	.55	.73*
Girl	Lower	Public	II-1	10	.18	.54	.39	.69*
Girl	Lower	Catholic	II-1	5	-.62	.50	-.30	-.30
Girl	Lower	Catholic	II-2	11	.42	.11	.51	-.44
Girl	Middle	Public	II-2	10	.80**	.63*	.57	.57
Girl	Middle	Catholic	II-1	11	-.01	.80**	-.04	-.01
Girl	Middle	Catholic	II-2	6	.83*	.59	.72	.23

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 16

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN READING TEST SCORES AND RATINGS OF EGO STRENGTH

Sub-Group			Grade Level of Book	N	Rank Order Correlations: Ratings by Teacher		Ratings by Interviewer	
Sex	Class	School			Kdg.	2nd Grade	Kdg.	2nd Grade
Boy	Lower	Public	I	7	.33	.52	.70	.30
Boy	Lower	Public	II-1	13	.12	.75**	.51*	.57*
Boy	Lower	Catholic	II-1	11	.58*	.20	.48	-.07
Boy	Lower	Catholic	II-2	10	.37	.37	.52	.59*
Boy	Middle	Public	II-1	7	-.31	.42	-.18	.44
Boy	Middle	Public	II-2	7	.45	.70	.44	.26
Boy	Middle	Catholic	II-1	10	.42	.34	.15	.31
Boy	Middle	Catholic	II-2	7	.30	.39	.51	.70
Girl	Lower	Public	II-1	10	.40	.64*	.81**	.70*
Girl	Lower	Catholic	II-1	5	-.62	.50	-.37	.25
Girl	Lower	Catholic	II-2	11	.59*	.34	.26	.13
Girl	Middle	Public	II-2	10	.42	.24	.11	.66*
Girl	Middle	Catholic	II-1	11	-.07	.51*	-.23	-.14
Girl	Middle	Catholic	II-2	6	.69	.69	.73	.09

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 17

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN READING TEST SCORES AND CHANGES IN QUANTIFIED SELF-CONCEPT SCORES

Sub-Group			Grade Level of Book	N	Rank Order Correlations	
Sex	Class	School			Self-Concept (Competence)	Self-Concept (Good-Bad)
Boy	Lower	Public	I	7	.48	.19
Boy	Lower	Public	II-1	13	.17	-.22
Boy	Lower	Catholic	II-1	11	.15	-.57
Boy	Lower	Catholic	II-2	10	-.11	-.33
Boy	Middle	Public	II-1	7	-.35	.40
Boy	Middle	Public	II-2	7	-.52	-.01
Boy	Middle	Catholic	II-1	10	.07	.03
Boy	Middle	Catholic	II-2	7	-.31	-.47
Girl	Lower	Public	II-1	10	-.27	-.46
Girl	Lower	Catholic	II-1	5	.60	-.80
Girl	Lower	Catholic	II-2	11	.08	-.32
Girl	Middle	Public	II-2	10	-.23	-.21
Girl	Middle	Catholic	II-1	11	-.04	.48
Girl	Middle	Catholic	II-2	6	-.35	-.21

TABLE 18

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN READING TEST SCORES AND RATIOS DERIVED FROM CONTENT ANALYSES, KINDERGARTEN

Sub-Group			Grade Level of		Rank Order Correlations		
Sex	Class	School	Book	N	Self-References	Competence Mentions	Good-Bad Mentions
Boy	Lower	Public	I	7	.09	-.22	.07
Boy	Lower	Public	II-1	13	-.48*	-.32	-.18
Boy	Lower	Catholic	II-1	11	.48	-.13	.28
Boy	Lower	Catholic	II-2	10	.08	.33	.17
Boy	Middle	Public	II-1	7	-.64	-.09	-.24
Boy	Middle	Public	II-2	7	-.54	-.89*	.61
Boy	Middle	Catholic	II-1	10	-.05	-.49	.23
Boy	Middle	Catholic	II-2	7	.05	-.07	.91
Girl	Lower	Public	II-1	10	-.78**	-.35	-.13
Girl	Lower	Catholic	II-1	5	-.70	-.50	.73
Girl	Lower	Catholic	II-2	11	.12	-.06	.17
Girl	Middle	Public	II-2	10	.04	.30	.54
Girl	Middle	Catholic	II-1	11	-.62*	.21	-.40
Girl	Middle	Catholic	II-2	6	-.64	.13	.42

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 19

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN MENTAL TEST SCORES AND MEASURES OF SELF-CONCEPT (COMPETENCE) IN KINDERGARTEN

Sub-Group			Grade Level of Book	N	Measure of Self-Concept (Competence)		
Sex	Class	School			Quantified Score	Rating by Interviewer	Rating by Teacher
Boy	Lower	Public	I	7	-.77	.02	.01
Boy	Lower	Public	II-1	13	-.06	.61*	.34
Boy	Lower	Catholic	II-1	11	-.03	.57*	.10
Boy	Lower	Catholic	II-2	10	.54	.45	.28
Boy	Middle	Public	II-1	7	-.32	-.57	-.19
Boy	Middle	Public	II-2	7	.41	.33	-.41
Boy	Middle	Catholic	II-1	10	-.01	-.26	-.24
Boy	Middle	Catholic	II-2	7	.54	.45	.28
Girl	Lower	Public	II-1	10	.44	.32	.60*
Girl	Lower	Catholic	II-1	5	-.25	-.15	-.10
Girl	Lower	Catholic	II-2	11	.33	.60*	.33
Girl	Middle	Public	II-2	10	-.10	.27	.33
Girl	Middle	Catholic	II-1	11	-.54	-.16	.03
Girl	Middle	Catholic	II-2	6	.49	.80	.02

* Significant at .05 level, one-tailed test

TABLE 20

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN MENTAL TEST SCORES AND MEASURES OF SELF-CONCEPT (GOOD-BAD) IN KINDERGARTEN

Sub-Group			Grade Level of Book	N	Measures of Self-Concept (Good-Bad)		
Sex	Class	School			Quantified Score	Rating by Interviewer	Rating by Teacher
Boy	Lower	Public	I	7	-.25	.56	.17
Boy	Lower	Public	II-1	13	-.04	.87**	.63*
Boy	Lower	Catholic	II-1	11	.20	.59*	.44
Boy	Lower	Catholic	II-2	10	.18	.46	.23
Boy	Middle	Public	II-1	7	-.45	-.16	.29
Boy	Middle	Public	II-2	7	-.45	-.32	.61
Boy	Middle	Catholic	II-1	10	-.21	-.40	.60*
Boy	Middle	Catholic	II-2	7	.71*	-.06	.39
Girl	Lower	Public	II-1	10	.26	.17	.43
Girl	Lower	Catholic	II-1	5	.00	-.15	.00
Girl	Lower	Catholic	II-2	11	.16	.59*	.46
Girl	Middle	Public	II-2	10	-.13	.44	.70*
Girl	Middle	Catholic	II-1	11	.08	.36	.44
Girl	Middle	Catholic	II-2	6	.66	.38	.42

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 21

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN MENTAL TEST SCORES AND RATINGS OF EGO STRENGTH IN KINDERGARTEN

Sub-Group			Grade Level of		Rating of Ego Strength by	
Sex	Class	School	Book	N	Interviewer	Teacher
Boy	Lower	Public	I	7	.28	-.53
Boy	Lower	Public	II-1	13	.29	.34
Boy	Lower	Catholic	II-1	11	.59	.21
Boy	Lower	Catholic	II-2	10	.30	.70*
Boy	Middle	Public	II-1	7	.74*	.17
Boy	Middle	Public	II-2	7	.01	-.08
Boy	Middle	Catholic	II-1	10	.29	.24
Boy	Middle	Catholic	II-2	7	.55	.09
Girl	Lower	Public	II-1	10	.17	.78**
Girl	Lower	Catholic	II-1	5	.75	.13
Girl	Lower	Catholic	II-2	11	..65*	.61*
Girl	Middle	Public	II-2	10	.49	.73*
Girl	Middle	Catholic	II-1	11	.16	-.04
Girl	Middle	Catholic	II-2	6	.35	.19

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 22

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN QUANTIFIED SCORES AND RATINGS OF SELF-CONCEPT (COMPETENCE) IN KINDERGARTEN

Sub-Group			Grade Level of		Ratings by	
Sex	Class	School	Book	N	Interviewer	Teacher
Boy	Lower	Public	I	7	-.16	.00
Boy	Lower	Public	II-1	13	.23	.11
Boy	Lower	Catholic	II-1	11	-.06	.12
Boy	Lower	Catholic	II-2	10	.61*	.80**
Boy	Middle	Public	II-1	7	.52	.35
Boy	Middle	Public	II-2	7	.45	.03
Boy	Middle	Catholic	II-1	10	-.16	.08
Boy	Middle	Catholic	II-2	7	.30	-.10
Girl	Lower	Public	II-1	10	.21	.14
Girl	Lower	Catholic	II-1	5	.50	.38
Girl	Lower	Catholic	II-2	11	.45	.13
Girl	Middle	Public	II-2	10	.29	.14
Girl	Middle	Catholic	II-1	11	.61*	.37
Girl	Middle	Catholic	II-2	6	.66	.68

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 23

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN QUANTIFIED SELF-CONCEPT (COMPETENCE) SCORES AND MEASURES OF SELF-COMPETENCE (GOOD-BAD) IN KINDERGARTEN

Sub-Group			Grade Level of		Measures of Self-Concept (Good-Bad)		
					Quantified	Rating by	
Sex	Class	School	Book	N	Score	Interviewer	Teacher
Boy	Lower	Public	I	7	.29	-.49	.20
Boy	Lower	Public	II-1	13	.39	.08	.31
Boy	Lower	Catholic	II-1	11	-.24	.24	.24
Boy	Lower	Catholic	II-2	10	.47	.25	.59*
Boy	Middle	Public	II-1	7	.34	.51	-.08
Boy	Middle	Public	II-2	7	.27	-.35	.00
Boy	Middle	Catholic	II-1	10	-.55	-.33	.42
Boy	Middle	Catholic	II-2	7	.04	.25	.36
Girl	Lower	Public	II-1	10	.10	-.27	.40
Girl	Lower	Catholic	II-1	5	.30	.70	.38
Girl	Lower	Catholic	II-2	11	-.09	.41	.28
Girl	Middle	Public	II-2	10	-.03	-.26	.04
Girl	Middle	Catholic	II-1	11	.30	.17	.63*
Girl	Middle	Catholic	II-2	6	-.42	.05	.72

* Significant at .05 level, one-tailed test

TABLE 24

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN QUANTIFIED SCORES OF SELF-CONCEPT (COMPETENCE) AND RATINGS OF EGO STRENGTH IN KINDERGARTEN

Sub-Group			Grade Level of		Ratings by	
Sex	Class	School	Book	N	Interviewer	Teacher
Boy	Lower	Public	I	7	.19	.50
Boy	Lower	Public	II-1	13	.39	.10
Boy	Lower	Catholic	II-1	11	.40	.42
Boy	Lower	Catholic	II-2	10	.52	.75**
Boy	Middle	Public	II-1	7	.08	.20
Boy	Middle	Public	II-2	7	.03	.45
Boy	Middle	Catholic	II-1	10	.27	.07
Boy	Middle	Catholic	II-2	7	.50	.22
Girl	Lower	Public	II-1	10	.08	.22
Girl	Lower	Catholic	II-1	5	-.37	.63
Girl	Lower	Catholic	II-2	11	.42	.31
Girl	Middle	Public	II-2	10	-.23	-.02
Girl	Middle	Catholic	II-1	11	.36	.53*
Girl	Middle	Catholic	II-2	6	.42	.50

* Significant at .05 level, one-tailed test

** Significant at .01 level, one-tailed test

TABLE 25

RANK ORDER CORRELATIONS FOR VARIOUS SUBGROUPS BETWEEN QUANTIFIED SCORE OF SELF-CONCEPT (COMPETENCE) AND RATIOS CONSIDERED INDICATIVE OF "DEFENSIVENESS" IN KINDERGARTEN

Sub-Group			Grade Level of Book	N	Ratio of		
Sex	Class	School			Self-References	Competence Mentions	Good-Bad Mentions
Boy	Lower	Public	I	7	-.07	-.53	-.27
Boy	Lower	Public	II-1	13	.02	.48	.22
Boy	Lower	Catholic	II-1	11	-.11	-.22	.27
Boy	Lower	Catholic	II-2	10	.09	.31	.74
Boy	Middle	Public	II-1	7	-.66	-.18	.43
Boy	Middle	Public	II-2	7	-.72*	-.83*	.37
Boy	Middle	Catholic	II-1	10	.01	-.39	.10
Boy	Middle	Catholic	II-2	7	-.10	.08	-.04
Girl	Lower	Public	II-1	10	-.33	-.41	-.31
Girl	Lower	Catholic	II-1	5	.20	-.40	-.17
Girl	Lower	Catholic	II-2	11	-.47	-.43	-.22
Girl	Middle	Public	II-2	10	-.10	-.47	.37
Girl	Middle	Catholic	II-1	11	.01	-.38	.24
Girl	Middle	Catholic	II-2	6	-.54	.08	-.04

* Significant at the .05 level, one-tailed test

TABLE 26

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN QUANTIFIED MEASURE AND RATINGS OF SELF-CONCEPT (GOOD-BAD) IN KINDERGARTEN

Sub-Group			Grade Level of		Ratings by	
Sex	Class	School	Book	N	Interviewer	Teacher
Boy	Lower	Public	I	7	.49	.65
Boy	Lower	Public	II-1	13	-.05	.12
Boy	Lower	Catholic	II-1	11	.28	.81**
Boy	Lower	Catholic	II-2	10	.56	.87**
Boy	Middle	Public	II-1	7	-.04	-.49
Boy	Middle	Public	II-2	7	-.05	-.28
Boy	Middle	Catholic	II-1	10	.35	.12
Boy	Middle	Catholic	II-2	7	.08	.65
Girl	Lower	Public	II-1	10	-.20	.20
Girl	Lower	Catholic	II-1	5	.80	-.12
Girl	Lower	Catholic	II-2	11	-.10	.26
Girl	Middle	Public	II-2	10	.27	.50
Girl	Middle	Catholic	II-1	11	-.16	.60*
Girl	Middle	Catholic	II-2	6	.33	.09

* Significant at the .05 level, one-tailed test

** Significant at the .01 level, one-tailed test

TABLE 27

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN QUANTIFIED MEASURE OF SELF-CONCEPT (GOOD-BAD) AND RATINGS OF SELF-CONCEPT (COMPETENCE) IN KINDERGARTEN

Sub-Group			Grade Level of Book	N	Ratings by	
Sex	Class	School			Interviewer	Teacher
Boy	Lower	Public	I	7	.31	.35
Boy	Lower	Public	II-1	13	-.02	.51
Boy	Lower	Catholic	II-1	11	.22	.80**
Boy	Lower	Catholic	II-2	10	.70*	.77**
Boy	Middle	Public	II-1	7	.16	-.15
Boy	Middle	Public	II-2	7	.59	.34
Boy	Middle	Catholic	II-1	10	-.14	.26
Boy	Middle	Catholic	II-2	7	.60	.38
Girl	Lower	Public	II-1	10	-.08	-.18
Girl	Lower	Catholic	II-1	5	-.10	-.52
Girl	Lower	Catholic	II-2	11	.17	-.06
Girl	Middle	Public	II-2	10	-.12	.24
Girl	Middle	Catholic	II-1	11	-.05	.12
Girl	Middle	Catholic	II-2	6	.32	-.18

* Significant at the .05 level, one-tailed test

** Significant at the .01 level, one-tailed test

TABLE 28

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN QUANTIFIED MEASURE OF SELF-CONCEPT (GOOD-BAD) AND RATINGS OF EGO STRENGTH IN KINDERGARTEN

Sub-Group			Grade Level of		Ratings by	
Sex	Class	School	Book	N	Interviewer	Teacher
Boy	Lower	Public	I	7	.65	.46
Boy	Lower	Public	II-1	13	.41	.32
Boy	Lower	Catholic	II-1	11	.59*	.57*
Boy	Lower	Catholic	II-2	10	.75**	.63*
Boy	Middle	Public	II-1	7	-.31	-.43
Boy	Middle	Public	II-2	7	.17	.76*
Boy	Middle	Catholic	II-1	10	.18	.11
Boy	Middle	Catholic	II-2	7	.54	.15
Girl	Lower	Public	II-1	10	.39	.28
Girl	Lower	Catholic	II-1	5	-.62	-.37
Girl	Lower	Catholic	II-2	11	.20	.61*
Girl	Middle	Public	II-2	10	.27	.50
Girl	Middle	Catholic	II-1	11	.48	.28
Girl	Middle	Catholic	II-2	6	.33	.22

* Significant at the .05 level, one-tailed test

** Significant at the .01 level, one-tailed test

TABLE 29

RANK ORDER CORRELATIONS FOR VARIOUS SUB-GROUPS BETWEEN QUANTIFIED MEASURE OF SELF-CONCEPT (GOOD-BAD), AND RATIOS CONSIDERED INDICATIVE OF "DEFENSIVENESS" IN KINDERGARTEN

Sub-Group			Grade Level of Book	N	Ratio of		
Sex	Class	School			Self-References	Competence Mentions	Good-Bad Mentions
Boy	Lower	Public	I	7	-.23	-.35	-.10
Boy	Lower	Public	II-1	13	-.25	-.08	.54*
Boy	Lower	Catholic	II-1	11	.63	.21	.30
Boy	Lower	Catholic	II-2	10	.51	.12	.68*
Boy	Middle	Public	II-1	7	.85*	-.22	-.40
Boy	Middle	Public	II-2	7	.26	-.50	.45
Boy	Middle	Catholic	II-1	10	.11	-.04	.65*
Boy	Middle	Catholic	II-2	7	.33	.05	.90**
Girl	Lower	Public	II-1	10	-.22	.24	-.34
Girl	Lower	Catholic	II-1	5	-.70	-.60	.68
Girl	Lower	Catholic	II-2	11	.18	.03	.20
Girl	Middle	Public	II-2	10	-.11	.29	.36
Girl	Middle	Catholic	II-1	11	.29	-.52	.70*
Girl	Middle	Catholic	II-2	6	.32	-.52	.62

* Significant at the .05 level, one-tailed test

** Significant at the .01 level, one-tailed test

CONCLUSIONS

This study was inaugurated as an exploratory one to find out whether there existed evidence as to the link between self-concept and achievement in beginning reading. It must be pointed out that the levels of confidence with which the hypotheses can be judged are by no means dramatic. What have been found are strong trends which show themselves in consistencies well beyond chance expectations. These consistencies would appear to justify the following statements:

1. Measures of children's self-concept upon entering kindergarten seem to be predictive of their later accomplishments in beginning reading.
2. Measures of self-concept appear to be randomly related to a measure of mental abil. y, and therefore, their use would appear likely to enhance the predictions now likely to result from use of an intelligence test alone.
3. This added predictive efficiency does not appear as likely if self-concept is appraised by ratings as if a quantified projective measuring device is used.
4. At the kindergarten level, there would appear to be at least two somewhat independent aspects to the self-concept, namely feelings related to competence and feelings related to being good versus naughty.
5. The effect of comparative success and failure in reading upon either of these self-concept dimensions does not appear to be strong.
6. It would appear worthwhile to include in any measure of self-concept at the kindergarten level some indication of preoccupation with self or with competence. There was evidence that defensiveness in these respects is negatively related to success in reading.

It must be emphasized and re-emphasized that the findings of this study should be regarded as preliminary. Judging by the results, there is a door which ought to be entered so that the space into which it opens can be carefully surveyed. Several next steps would seem appropriate at this point.

First, other investigators using different populations and more refined techniques should replicate the present design with appropriate modifications. It is essential that the findings enumerated above be carefully tested.

Second, a less cumbersome technique for measuring self-concepts along several dimensions should be devised, validated, and cross-validated. The measures used in this study were acceptable for exploratory purposes but they are too costly in time and money to permit research with the size samples which now are required. Furthermore, although the reliabilities were satisfactory, there is face validity alone to the measurements as they stand.

Third, the connection between reading achievement and self-concept should be put to experimental proof. There are several ways in which programs can be initiated to determine whether it is possible to alter the self-concepts of kindergarten children. If this can be done with any assurance of results, then an experimental group which has benefitted from such treatment should be compared with a group initially equated but otherwise, untreated to determine whether reading progress is altered.

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